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Dear Sir:

Transmitted herewith for filing is the following new patent application:

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Title: **AGGREGATING ON-LINE PURCHASE REQUESTS**

Attorney Docket Reference: EWG-086-C

Enclosed are:

1) A specification of the invention (27 pages) and drawings (14 sheets)
2) A small entity form.
3) A Declaration by the Inventors
4) A return addressed postcard for filing notification
5) A Power of Attorney
6) **A check for $497.00** *(EWG-#2496)* **to cover the filing fee calculated as follows:**

Base Filing Fee (small entity)----------	$380.00
Three extra independent claims ----------	117.00
Total Filing Fee ----------	$497.00

Please charge any deficiency in the enclosed fee (or credit any overpayment) to Deposit account 500,433 which is in the name of Elmer Galbi.

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Aggregating On-Line Purchase Requests

Related Application:

The present application is a continuation in part of co-pending application serial number _____ filed February 1, 1999.

Field of the Invention:

The present invention relates to the internet and more particularly to a method and system for selling products and helping customers make purchases via the internet.

Background of the Invention:

Conducting electronic commerce over the internet has become very common. Many products are sold over the internet utilizing a relatively conventional buyer-seller transaction. That is, a merchant posts a description of products on a Web page along with the price, a purchaser who sees the web page and who wants to purchase the product then submits an order including a credit card number to the seller's Web site. The merchant charges the purchaser's credit card and ships the product to the purchaser.

The Internet also facilitates other types of commercial transactions and several other internet marketing systems that are in widespread use. The other types of systems that are in widespread use include on-line auction systems and systems where the purchaser provides a price and the system then provides the product or service if the price provided by the purchaser meets certain criteria. Examples of prior art systems are shown in issued US patents 5,835,896 and 5,710,887.

Description of the Present Invention:

The present invention provides a system and technique which aggregates demand for products and/or services on a real time basis. The invention is implemented using an internet web site and a computer program. With the present invention individual buyers are aggregated into temporary groups. The members of a group can purchase at a volume price. The price paid is based on the number of members in the group. This is done primarily without the members of each temporary group having any interaction with each other and without the members of each temporary group knowing anything about the other members of the temporary group. The price at which products are sold is based upon the number of individuals that join each particular group. By aggregating individual purchasers into temporary buying groups on a real time basis, the invention reduces supplier sales and marketing costs. The present invention provides a "just in time demand system" which has advantages that are somewhat similar to the those of the widely used just in time supply systems. The invention operates in several steps which are termed a "buy cycle". In the first step a product description is posted on a web page. A buy cycle is closed based upon a pre-established criteria such as after a fixed period of time, after a preset number of orders have been submitted, or after a criteria which taken into consideration the rate at which orders are being received. After a buy cycle is closed the orders are processed and fulfilled through one of two methods. The first technique for filling orders is used in situations where a contract or arrangement has been pre negotiated with a partner (i.e. a supplier, distributor, or other fulfillment agency). In this situation when the buy cycle is closed, the order is processed and sent for fulfillment to the partner with whom a supply contract was previously negotiated. The second technique used to fill orders is as follows: when the buy cycle closes, the order is put together and put out for bid, much like a request for

proposal (RFP). Multiple suppliers are encouraged to submit bids and contracts to fulfill the order. The bids can be accepted either through electronic means, much like a stock exchange, or through more traditional, manual processes. Once a bid is accepted, the order is then sent to that supplier for fulfillment. After a buy cycle is closed and the orders are processed in one of the above methods, the product is shipped to the customers and the customer's credit card is charged.

Brief Description of the Drawings:

Figure 1 shows the layout of a web page.

Figure 2 shows a flow diagram of the membership process.

Figure 3 shows a flow diagram of the decision guide process.

Figure 4 shows a flow diagram of beginning a buy cycle.

Figure 5 shows flow diagram of the end of a buy cycle.

Figure 6 shows the watchdog cycle.

Figure 7 shows the opening of a buy cycle.

Figure 8 shows the no slice subroutine.

Figure 9 shows the maximum buy subroutine.

Figure 10 shows the current buy subroutine.

Figure 11 shows the price buy cycle.

Figure 12 shows the current price subroutine.

Figure 13 shows a first technique for determining price.

Figure 14 shows a second technique for determining price.

Detailed Description of Preferred Embodiments:

The preferred embodiment of the present invention is in the form of a computer program that implements a web site. The web site which implements the present

invention gives purchasers (i.e. customers) a "just in time" demand experience. Purchasers who visit the web site are provided with decision tools and product information necessary to make intelligent purchasing decisions. Once a product is selected, customers are presented with a price schedule based on volume levels. Customers may simply purchase at the posted price or launch a buying cycle.

A buying cycle is a purchasing cycle that aggregates demand for a particular product within a given period of time. Buying cycles take into account three types of purchase behaviors:

1. Destination demand – customers who come to the web site specifically to purchase a product
2. Latent demand – those customers who have previously provided buying profiles and wish to be notified when certain purchasing requirements are met. These customers are notified via email when their requirements are matched.
3. Impulse demand – those customers who visit the web site for any of a variety of reasons (unrelated to a particular product) and who when they visit the web site discover value and thereby develop a desire for the particular product.

Any of the above types of demand can motivate a customer to join a buying cycle. At the time a customer joins a buying cycle, the customer is made aware of the MAXIMUM price they would have to pay should no other customers join that cycle. As additional customers join the buying cycle, the unit price declines. With the present invention buyers work together instead of against each other. In contrast to the operation of the present invention, in online auctions, customers bid against each other.

Once a buying cycle is closed, the system completes the transaction in one of two ways. The first technique for filling orders is used where the operator of the web site has previously negotiated a contract or arrangement with a partner (i.e. a supplier, distributor, or other fulfillment agency) to supply a product according to a particular price-volume schedule. In this situation once the buy cycle is closed, the order is processed and sent to the partner for fulfillment of the order.

The second technique for filling orders is a reverse auction where suppliers bid against each other to fill orders. With this technique after a buy cycle closes, the order is put together and put out for bid, much like a request for proposal (RFP). Multiple suppliers are urged to submit bids or contracts to fulfill the order. The RFP and the bids can be taken either through electronic means, much like a stock exchange, or through more traditional, manual processes. Once a bid is accepted, the order is then sent to that supplier for fulfillment. The orders are filled either at the prices originally posted or at a lower price if a lower bid is obtained. The prices initially posted on the web site for products subject to a reverse auction process can either be an estimate of what prices the suppliers will bid or the initially posted prices can be prices provided by a back-up supplier who has agreed in advance to provide product at this price if no other supplier bids lower. Other alternatives described below are also possible.

Text on the web site will tell prospective customers how orders for each product will be filled and any other special rules applicable to a particular buy cycle. That is, prospective customers will be informed if orders are to filled at pre established prices in accordance with a pre-established supplier contract or if the prices posted are maximum prices that a customer will have to pay if no supplier submits a lower bid.

It is noted that supplier bids can be accepted in real time and suppliers can be given the opportunities to bid in real time.

The invention is implemented by means of application program which runs on a conventional web server. The web server can be any of the conventionally used web servers such as those marketed by Sun Microsystems Computer Corporation or those marketed by the Microsoft Corporation. Such servers operate under a system control program which in turn calls an application program. For example the Microsoft IIS 4.0 Web Server program has an associated Microsoft Site Server program that provides basic cataloging functionality, order processing capability and a transaction pipeline which performs such operations as calculating tax due, and credit card verification. The preferred embodiment of the invention as described herein is implemented as an application program or web site operating under a server operating system.

The web site which implements the present invention includes a number of linked web pages and a computer program which implements various functions required in order to implement the invention. The web site is conventional except for the specific functions described herein. The manner in which the web pages are accessed and the manner in which the program described below is integrated into the site operating system are conventional and thus they are not specifically described herein. Reference is made to text books such as the following for a description of how web sites are implemented and for a description of how application programs are operated on a web site:

1) Information Architecture for the World Wide Web by: Louis Rosenfeld, Peter Morville / O'Reilly & Associates / March 1998

2)_ Web Design Resources Directory : Tools and Techniques for Designing Your Web Pages by: Ray Davis, Eileen Mullin Published 1997

3) Microsoft Internet Information Server 4 : The Complete Reference (Complete Reference) by: Tom Sheldon, et al / Paperback / Published 1998

The primary actions on the web site which implements the present invention take place during what is termed a "buy-cycle". During a buy cycle, customers indicate that they want to buy a particular product and orders are accumulated. The number of orders accumulated during a buy cycle determines the price at which the particular product is sold.

Figure 1 shows a block diagram of a web page referred to as the "order web page" and designated as web page 2. The order web page includes:

a) a product description window 3 which includes a description of a particular product,

b) a price-volume window 4 which lists the price for various volumes of the product,

c) an orders received window 5 which lists the number of orders received during the active buy cycle,

d) a "buy-button" 6 to indicate a buy decision,

e) a time remaining window 7 which shows the time remaining in the particular buy cycle, and

f) a buy cycle closed window 8 which shows that the particular buy cycle has been closed.

g) a heading and logo window 9 which gives information about the company.

The following is a specific example of a price schedule that appears in price volume window 4:

Items ordered in the cycle:	Unit price:
1-10.	500
11-30.	475
31-50.	450
50-100	425
100+	400

It is noted that Figure 1 is a block diagram of a web page. An actual web page would include colors and graphics to make the web page appealing to consumers. The web page could also include various other related information, links and choices.

Customers who visit the web site can order the product by pressing (i.e. clicking on) the buy button 6. The number of customers who have ordered the particular product during the particular buy cycle is shown in the orders received window 5. The time remaining in the particular buy cycle is shown in window 7. When the buy cycle ends, no further orders are accepted for the particular product during that particular buy cycle and the orders are filled through one of two ways. The first technique is used where a contract or arrangement has been pre negotiated with a partner (i.e. a supplier, distributor, or other fulfillment agency). In this situation once the buy cycle is closed, the order is processed and sent to the partner for fulfillment of the order. In situations where no supply contract has been pre negotiated, when the buy cycle closes, the order is put together and put out for bid, much like a request for proposal (RFP). Multiple suppliers are encouraged to submit bids and contracts to fulfill that order. The RFP and the bids can be handled either through electronic means, much

like a stock exchange, or through more traditional, manual processes. Once a bid is accepted, the order is then sent to that partner for fulfillment. In this situation the order is filled at either the posted price or at a lower price if a bid lower than expected is received.

As indicated by blocks 21 and 22 in Figure 2, advertisements or word of mouth (or serendipity) brings prospective customers to a home page (or entry point) 23 on the web site. The home page 23 describes the system and provides a mechanism for prospective customers to indicate that they would like to register for use of the site. Prospective customers can simply join buying cycles and purchase products for a transaction fee or they can register as "members" which requires payment of a membership fee. Customers who pay a membership fee and register as members obtain certain privileges not available to guests. Web sites which allow for both guests (at no fee) and members (with the payment of a fee) are conventional. The registration process is conventional and the web site includes a web page (not explicitly shown herein) which includes fields in which a customer can enter registration information. As indicated by block 24, both non members and prospective members provide information which is collected to generate a profile 25. If a customer visits as a member, or if a guest or member orders a product, the information in their profile is used to bill their credit card. As shown by block 26 in Figure 2, a membership fee, or a lower guest fee is charged to the customer's credit card. Such operations are conventional.

After a prospective customer has registered as either a member or as a guest as described above, the customer can login as indicated by block 31 in figure 3. As indicated by block 33, once a customer has logged into the system they are provided

with a "solutions guide" web page 33 which helps the customer pick an appropriate product. The solutions guide web page 33 includes hyperlinks to buying preferences survey web page 32 and a review and rating web page 34. As a result of the help provided by web page 33, the customer makes a choice as indicated by block 35. If the customer's choice is for a product that already has an active buy cycle, the customer's choice results in an order in that buy cycle as indicated by block 36. If the customer's choice is not a product which has an active buy cycle, a buy cycle is initiated as indicated by block 37. At a pre-established time, the buy cycle closes as indicted by block 38 and the product is shipped and the customer is charged as indicated by block 39. Figures 13 and 14 which will be explained later described how the price is determined in an interval between when a cycle is closed and when a product is shipped, that is, between block 38 and 39 in Figure 3.

Figures 4 to 12 give detailed program flow diagrams of the programs that operate during a buy cycle. Once a buying cycle starts, a series of individual purchase requests are collected by a central server referred to herein as the primary aggregation server. Instead of having one primary aggregation server, individual purchase requests can be collected by a number of distributed secondary aggregation servers. That is, the individual purchase requests can be collected by a number of remote computers linked to the primary aggregation server through communication links.

Buy-cycles can be started at any time. Buy cycles end when a preset number of purchase requests have been exceeded, or if a preset time limit has elapsed. Prior to the start of a buy cycle, a price-point structure is set by a buy-cycle administrator (not shown). The buy-cycle administrator sets a minimum and maximum number of

purchase requests for each price point and this information is listed on the order web page 2. Prospective customers therefore have accurate price information at all times time during the buy-cycle. As each purchase request is entered and validated into the aggregation server during the buy-cycle, a counter is incremented (or decremented) identify the current number of purchase requests. When the buy-cycle closes, the counter is consulted to establish the final price attributed to the buy-cycle.

Each buy-cycle relates to a particular item for sale with a price structure constructed as follows:

Table A.1: Price Structure Construction

	Number of Items		
Slice Number	Minimum	Maximum	Price
0	$n_0=0$	n_1-1	P_0
1	n_1	n_2-1	P_1
2	n_2	n_3-1	P_2
3	n_3	n_4-1	P_3
m-1	n_{m-1}	n_m	P_{m-1}

The price structure is divided into "m" price slices, each with a corresponding price "P_m". For each price slice, there is a minimum number of items for sale "n_m" and a maximum number of items "$n_{m+1}-1$". A representative example is as follows: :

Table A.2: Price Structure for Sample Buy-Cycle

	Number of Items		
Slice Number	Minimum	Maximum	Price
0	0	3	$10.00
1	4	9	$9.75
2	10	11	$9.00
3	12	49	$8.00
4	50	199	$6.50

Note:

1.By definition, a price structure as at least two (2) price slices.

2.The largest maximum number of items for the last price slice corresponds to the cut-off point, which, if reached, will end the buy-cycle.

In order to manage buy-cycles, the following operations are defined. Each buy-cycle is identified through a unique buy-cycle identifier called buy_cycle_id.

1. Begin (buy_cycle_id,time_t), which initializes and starts a buy-cycle that will last until time_t,

2. End(buy_cycle_id), which terminates the buy-cycle either manually or by being called from the buy-cycle watchdog, and

3. Watchdog(buy_cycle_id), which automatically supervises the status of a selected buy-cycle.

The following operators are defined to determine state information about buy-cycles:

1. Open(buy_cycle_id), which returns a Boolean result on whether or not the buy-cycle referenced by the unique buy-cycle identifier buy_cycle_id is active,
2. No_slice(buy_cycle_id), which returns the number of slices m for the specified buy-cycle,
3. Max(buy_cycle_id), which returns n_m for the specified buy-cycle,
4. Current(buy_cycle_id), which returns the current number of purchase requests for the buy-cycle, represented as $n_{current}$,
5. Price(buy_cycle_id,n), which returns the price point for the specified cycle with n purchase requests, and
6. Price_current(buy_cycle_id)—the logical equivalent of price(buy_cycle_id,n_current), which returns the price point corresponding to the current number of purchase requests.

Figure 4 shows the process that is called whenever a defined buy-cycle needs to be set into active mode. For example this could occur as indicated by box 37 in Figure 3. As indicated by block 210, a subroutine named open() and which is shown in Figure 7 determines if the particular buy cycle is already open. If the buy cycle called is already open, this information is returned to the main program as indicated by block 211. This could either mean that there has been some error or it could be a notice to the main program to go to block 36 shown in Figure 3. As indicated by block 212, if the buy status is not active, the status is set to active. Next, as indicated by block 213 the time limit for the buy cycle is set to a value $time_t$. As previously indicated the value $time_t$ could either be a fixed value or it could be determined in a number of ways dynamically.

At the end of a buy cycle, the subroutine shown in Figure 5 is called. First as indicated by block 220, a determination of whether the cycle is already open is made by the subroutine open(). If the buy cycle is not open, no action is taken as indicated by block 221 and control is returned to the calling program. If the buy cycle is open, the status is set to inactive as indicated by block 222 and the buy cycle administrator (which could be another program or a human operator) is notified as indicated by block 223. At this point the orders that have been entered during the buy cycle are executed in a conventional manner. That is the products are shipped and the customer's credit cards are charged.

Figure 6 shows the subroutine called "watchdog" which operates while a buy cycle is active. The watchdog process oversees the status of a specific buy-cycle from its inception until the buy-cycle is either terminated manually or when certain buy-cycle-specific time or volume limits have been achieved. As indicated by block 230 and 231 a check is first make to insure that the buy cycle is in fact open. As indicated by blocks 232, 233 and 234, the current time and the buy cycle expiration time are obtained and compared. As indicated by block 234 if the if the buy cycle time has ended the subroutine end() is called. Blocks 235, 236 and 237 indicate that if the buy cycle is active, the current number of requests is obtained and compared to the maximum number of requests. If the number of requests exceeds the maximum number allowed for that buy cycle, the buy cycle is ended. If the number of requests is less than the maximum, the subroutine goes to sleep for a period of time as indicated by block 239 and it then repeats. Providing such a sleep period for such a subroutine is conventional.

Figure 7 shows the subroutine which is used to determine if a buy cycle with a particular ID is open. A conventional data base (not explicitly shown) is used to store the ID's of the open buy cycles. Blocks 240 and 241 indicate that the ID of a buy cycle is compared to data in a data base and then a determination is either made that the buy cycle is active (block 242) or a determination is made that the buy cycle is not active (block 243).

Figure 8 shows the subroutine which is used to determine the number of price slices within a buy-cycle. This subprogram sets the value of the variable "m". As indicated by blocks 250 and 251,the number of rows in the table (see above table 1) for a particular buy cycle ID is obtained and used to set the value of the variable "m". Block 260 and 270 in Figures 9 and 10 shows how the variables "no_items_max" and "no_items_current" are set. Figure 9 shows how the maximum number of items available for the buy-cycle is determined. Figure 10 shows the current number of purchase requests within the buy-cycle is determined. It is noted that the SQL calls are a standard technique for getting data from a data base such as the commercially available and widely used Oracle data base marketed by Oracle Corporation or the widely used Access data base marketed by Microsoft Corporation. The particulars of the data based used to store various information used by the described embodiment of the invention are conventional and not explicitly shown herein.

Figure 11 shows how the price at which orders are executed is calculated at the end of a buy cycle. The operator illustrated in Figure 11 is used to calculate the price corresponding to the given number of purchase requests within the buy cycle. Block 280 shows that at the beginning of the subroutine the variables are initialized. Next as indicated by block 281, an SQL call to the data base is made to set the variables

P_0 and n_0. Blocks 282 and 283 show that the variable m is incremented and that the value of the variable P_m and n_m is obtained from the data base. Next as indicated by block 284 a check is made to determine if n_m is greater than n. As indicated by block 285, if it is larger the price is set to P_{m-1}. If it is smaller, a check is made by block 286 to determine if n equals m. If it does the price is get to P_m. If it is not the process repeats to block 282.

Figure 12 shows a block diagram of the operator used to calculate the price corresponding to the current number of purchase requests within the buy-cycle. First as indicated by block 290, the value of n is set. Next as indicated by block 291 the subroutine price() is called to set the price.

As previously indicated the price at which orders are filled depends upon whether or not a pre-negotiated and pre-established commitment has been obtained from a supplier to provide products at the prices posted. If such a contract exists when the cycle is done product is supplied at that price. This is shown by blocks 131 and 132 in Figure 13. Blocks 131 and 132 indicate that the final price is calculated based upon the supplier price schedule.

If the prices posted are estimated prices, and no contract exists with a supplier to supply prices at the posted prices the sequence shown in Figure 14 occurs. Once a buy cycle ends as indicated by block 38, the number of products that have been ordered is calculated as indicated by block 141. This information is disseminated to prospective suppliers and these suppliers make offers as indicated by block 142. The best value is determined as indicated by block 143 and then a supplier is selected as indicated by block 144. Finally as indicated by block 39 orders are filled

at the price in the selected offer and product is shipped. A variety of techniques can be used to handle the situation in which no supplier offers to provide the product at a price that is at least as low as the price posted. For example, customers could be told on the web site that if this situation occurs, the orders will not be filled. Alternatively, the system could be operated on the basis that the company operating the web site will pay for any difference between the posted price and lowest price bid by suppliers. Still another alternative is that before any product is offered at a posted price an arrangement will be negotiated with a back-up supplier who agrees to provide the product at the posted price.

The present invention provides for two types of revenue flows for the operator of the web site:

Subscription fees - designed to drive value for repeat buyers and to raise customer switching costs. Customers will pay a modest subscription fee, to be renewed periodically such as annually.

Transaction fees - charged on each purchase through the system (subscription customers will be exempt from all transaction fees). Transaction fees are designed to encourage trial and facilitate the purchase of one-off goods.

In addition to the web pages described above, the web site which implements the present invention can include a variety of other web pages which together form a complete site. For example the site includes a "home" page which is a starting point for customers to enter the system and a main page which provides links to other information such as information for suppliers who want to offer products, information

for investors, information for partners interested in the technology, and notices of employment opportunities.

The web site includes a conventional check out page and an order summary page which displays all the information about an order and requires the customer to press a button indicating that the information is correct.

The site can also include a variety of other web pages, all of which can be reached by "link" buttons displayed on some or all of the web pages. The following is an example of an additional web page that can be included in the web site. For example the web site can include a "Shopping Basket Web Page". As is conventional such a page could be reached by clicking a checkout button located in a mini-shopping cart which can be displayed on various other pages. A Shopping Basket Web Page can be a first step in a checkout process. The shopping basket web page can include the following elements:

a) editorial content

b) product name and manufacturer logo

c) product availability

d) the current price i.e. This is the maximum amount the customer will have to pay

e) transaction fee which the customer must pay.

f) subtotal: i.e. the total price for all the items in the cart (shipping and tax to be added in the next step)

g) dollar savings to on the individual product. i.e. the list price minus the current price

h) total dollar savings on all items in cart

i) a "remove" box : clicking this box will remove the item from the cart when the page is refreshed.

j) the time and date when this cycle will close.

k) Toolbar with standard buttons for items such as Help, About Us, Feedback, Account info, etc.

l) Special Buttons for items such as:

- quantity box
- change quantity

  after changing the quantity in this box, the customer can press a button to reload the page. The refreshed quantity box will show the request quantity. To remove the product from the shopping cart, the customer can either check the remove box or change the quantity in the shopping cart to zero.
- Checkout button (with text , "please verify above information and click here to continue")

m) Links to web pages which give:

- security policy
- returns and refund policy
- cycles in progress

The web site can include a "buy cycle ticker" that communicates what's happening on the buy cycles. The buy cycle ticker is similar to a stock ticker that runs across TV and computer screens. It highlights a named product (i.e. notebook computer), a brand (Toshiba); a current price (i.e. $1200) and the number of buyers in the cycle (e.g. 43). Two buy cycle tickers could be provided, one in a red color to show immediately cycles closing, one in green to show cycles that will close later.

The site can include provisions by which a customer can activate during the registration process so that the customer will be notified by e-mail of events such as:

1) New items listed on the site.

2) The fact that a buy cycle has reached a particular price point.

3) Thank you messages.

E-mail can also be used to notify customers that products have been shipped and that their credit cards have been charged for a purchase.

The site includes a mechanism so that if a customer leaves the site with items in the shopping cart, the items will appear in their respective areas once the customer returns, as long as a cycle still exists for that particular product. If the cycles are discontinued for that particular product, the item should be removed from the shopping cart.

The tool bars on the various web pages can include a variety of button, For example there can be buttons to contact the supplier, a button to get account information. Various links can be provided such as links to explain company policy, links to a privacy statement. to account information and to various product selection help aids.

A data base program such as a conventional Oracle or Access data base would have stored therein information about the various products being offered for sale. When a new buy cycle for a particular product is initiated, information from this data base would be used to provide information for an appropriate order page such as that shown in Figure 1. Registration information about members would be kept in this same data base. A database administrator would update the data base as new products become available or with other product and price changes. Such a data base for providing information for a web site would be conventional.

The present invention drives true value to its customer base when demand volume can be identified and coordinated to facilitate transactions. In order to ensure that buying cycles are maximized by optimum market reach, techniques such as the following can be used:

When a customer has joined a buying cycle for a particular product, they can be given the opportunity to notify their colleagues, via a pre-formatted email, about the web site and about the buying cycle in progress. Such a tool enables customers to draw as many people possible into the buying cycle for maximum price benefit i.e. the more people that join a cycle, the lower the price per unit. The email can communicate the value proposition, give details of the buying cycle in progress, and invite the recipient to visit the web site and join the buying cycle themselves. Such a tool can drive awareness at a "grassroots" level, leveraging personal networks and communities that have been empowered by the inherent benefits of the Internet.

In order to further drive audience exposure to buying cycles, Sponsor Partner Program can be used for vertical online communities (e.g. companies, organizations, etc.) and horizontal online communities (e.g. organizations that provide information which is displayed on web sites etc.). Such partners have a large member base in place, and they can be used to uniquely provide the service available by use of the present invention to this mass audience.

Sponsor partners can be given strategic branding opportunities through a sponsor banner located throughout the web site which implements the invention. This branding will be visible to those customers entering through their respective community site. This co-branding opportunity will allow the partner to further build a

relevant service offering for its members while increasing the perceived value of its community. All partners can be given the opportunity to place a branding message on all "Word-of-Mouth" emails sent by customers who have entered through their respective community site.

This co-branding opportunity will allow a partner to deliver its branding message to a large audience of prospective new members. By the nature of this endorsement (via an existing member), a partner has the opportunity to establish a trusted relationship with new members

As a Sponsor, a partner can be given the opportunity to participate in a revenue stream as generated directly by its members. For example a Sponsor could receive 20%-40% of all membership and transaction fees as generated by the web site that implements the invention.

The revenue sharing program will enable a partner to build a viable E-Commerce strategy while reinforcing the value of its membership

The preferred embodiment of the invention described above is only one example of how the present invention can be practiced. It should be understood that various changes in form and detail may be made without departing from the sprit of the invention. The scope of the invention is limited only by the appended claims.

I claim:

1) A system for facilitating the purchase of products via the internet and which operates in accordance with a buy cycle, said system comprising:
a web server which posts a web page at the beginning of a buy cycle and which describes a product and which lists prices for various quantities of the product,
a web server which accepts orders from purchasers and which tracks the number of purchasers in a buy cycle and which closes said buy cycle based upon pre-established criteria, and
a web server which processes the orders received in a buy cycle.

2) The system recited in claim 1 wherein said buy cycle is closed after a fixed amount of time.

3) The system recited in claim 2 wherein said web page post the length of said fixed amount of time.

4) The system recited in claim 3 wherein said web page posts the amount of time remaining in said fixed amount of time.

5) The system recited in claim 1 wherein said buy cycle is closed after a preset number of orders has been received.

6) The system recited in claim 1 wherein said buy cycle is closed after the rate at which orders are being received falls below a pre-established rate.

7) A system for facilitating the purchase of products via the internet and which operates in accordance with a buy cycle, said system comprising

means which posts a web page at the beginning of a buy cycle and which describes a product and which lists prices for various quantities of the product,

means which accepts orders from purchasers and which tracks the number of purchasers in a buy cycle and which closes said buy cycle based upon pre-established criteria, and

means which processes the orders received in a buy cycle.

8) A method for facilitating the purchase of products via the internet during a buy cycle, said method comprising

posting a web page at the beginning of a buy cycle and which describes a product and which lists prices for various quantities of the product,

accepting orders from purchasers,

tracking the number of purchasers in a buy cycle,

closing said buy cycle based upon pre-established criteria, and

processing the orders received in a buy cycle.

9) The method recited in claim 8 wherein said buy cycle is closed after a fixed amount of time.

10) The method recited in claim 9 wherein said web page post the length of said fixed amount of time.

11 The method recited in claim 10 wherein said web page posts the amount of time remaining in said fixed amount of time.

12) The method recited in claim 8 wherein said buy cycle is closed after a preset number of orders has been received.

13) The method recited in claim 8 wherein said buy cycle is closed after the rate at which orders are being received falls below a pre-established rate.

14) The method recited in claim 8 wherein said orders are processed by charging the cost of each order to the purchaser's credit card.

15) A system for helping customers buy products via the internet comprising,
a web page that lists the price of a product at various volume levels,
a program for establishing a buy cycle which has a pre-established termination point.
a program which accepts orders for products and which posts the number of orders accepted within a buy cycle, and
a program which fills the orders received during a buy cycle.

16) A system for helping customers buy products via the internet comprising,
a web page that lists the price of a product at various volume levels,
means for establishing a buy cycle which has a pre-established termination point,
means which accepts orders for products and which posts the number of orders accepted within a buy cycle, and
means for filling orders received during a buy cycle.

17) The system recited in claim 1 including reverse action means whereby suppliers bid against each other to offer the best price for the demand.

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Abstract:

A system and technique which aggregates demand for products or and services on a real time basis. Individual buyers are aggregated into temporary groups. The members of a group can purchase at a volume price. The price paid is based on the number of members in the group. This is done without the members of each temporary group having any interaction with each other and without the members of each temporary group knowing anything about the other members of the temporary group. The price at which products are sold is based upon the number of individuals that join each particular group

POWER OF ATTORNEY

Commissioner of Patents and Trademarks
Washington, D. C. 20231

Sir:

ACCOMPANY INC., is the assignee of the invention:
Entitled: AGGREGATING ON-LINE PURCHASE REQUESTS
Docket: **EWG-086-C,**
the specification of which is being filed herewith.

ACCOMPANY INC., as assignee, hereby appoints the following attorney to prosecute this application and to transact all business connected therewith in the U. S. Patent and Trademark Office.

Name	Reg. No.
Elmer W. Galbi	19,761

Send all correspondence to:

Elmer W. Galbi, Esq.
13314 Vermeer Drive
Lake Oswego, OR, 97035

Direct telephone calls to: Elmer W. Galbi 503-697-7844

Date: Feb 12/99

Jonathan Ehrlich
ACCOMPANY INC.
Vice President

DECLARATION BY INVENTORS

Each of the below named inventors, hereby declares that:

My residence, post office address and citizenship are as stated below next to my name,

I believe that I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention,
Entitled: AGGREGATING ON-LINE PURCHASE REQUESTS
Docket Number: EWG-086-C,
the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above identified specifications, including the claims.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations 1.56(a).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made, with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

CLAIM OF PRIORITY BASED ON FOREIGN APPLICATIONS: NONE
CLAIM OF PRIORITY BASED ON PREVIOUSLY FILED U.S. APPLICATIONS:
Priority claimed: Co-pending Application filed February 1, 1999, the serial number of which has not yet been received.

Jonathan Ehrlich — Canadian — Feb 12/99
Inventor name — Citizenship — Signature — Date

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Post Office Address and Residence

James Rose — USA
Inventor name — Citizenship — Signature — Date

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Post Office Address and Residence

Salim Teja — Canadian — Feb 12/99
Inventor name — Citizenship — Signature — Date

4 Park Vista Drive, Apt 904, Toronto, Ontario, Canada M4B3M8
Post Office Address and Residence

Benoit Turgeon — Canadian — 1999 FEB 12
Inventor name — Citizenship — Signature — Date

104 Hambly Ave, King City, Ontario, Canada L7B 1J1
Post Office Address and Residence

CLAIM OF SMALL ENTITY STATUS

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27(c) - SMALL BUSINESS CONCERN

I hereby declare that I am an official empowered to act on behalf of the small business concern identified below:

NAME OF CONCERN: ACCOMPANY INC.

ADDRESS OF CONCERN: 715 Bryant St. #102,,
San Francisco, CA 94107

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third-party or parties controls or has the power to control both.

I hereby declare that the rights under contract or law have been conveyed, to and remain with the small business concern identified above with regard to the invention:

Entitled: AGGREGATING ON-LINE PURCHASE REQUESTS
By inventors: Jonathan Ehrlich , James Rose
Salim Teja, and Benoit Turgeon
Docket: EWG-086-C
described in the specification filed herewith.

No rights to the invention are held by any person who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small business entity is no longer appropriate. (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: Jonathan Ehrlich

TITLE OF PERSON SIGNING : Vice President

SIGNATURE _____ DATE: 12/12/95

Figure 1, (Web Page)

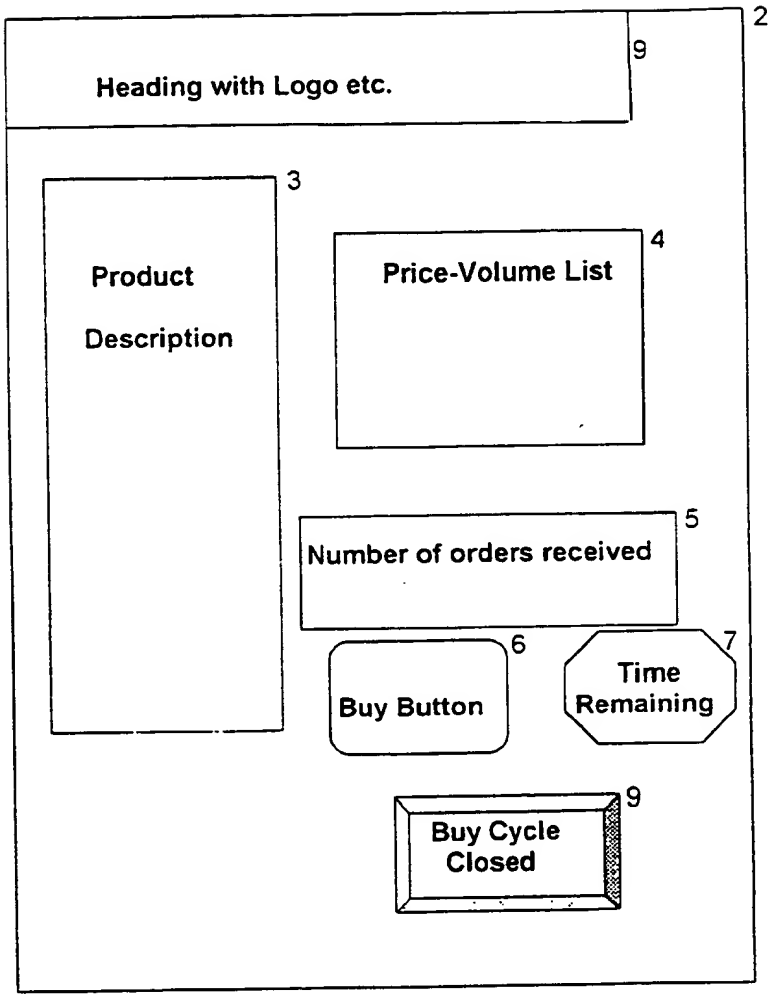
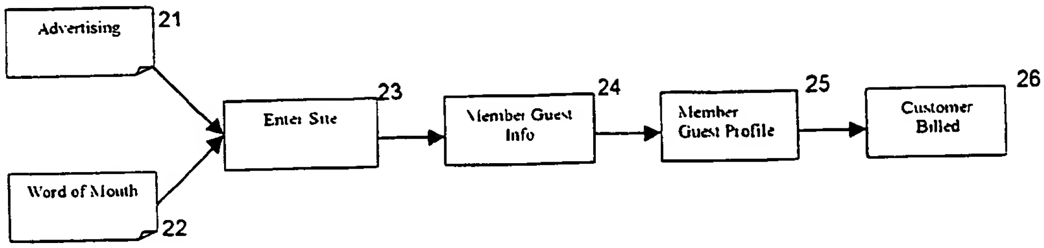


Figure 2


Advertising
21
Word of Mouth
22
Enter Site
23
Member Guest Info
24
Member Guest Profile
25
Customer Billed
26

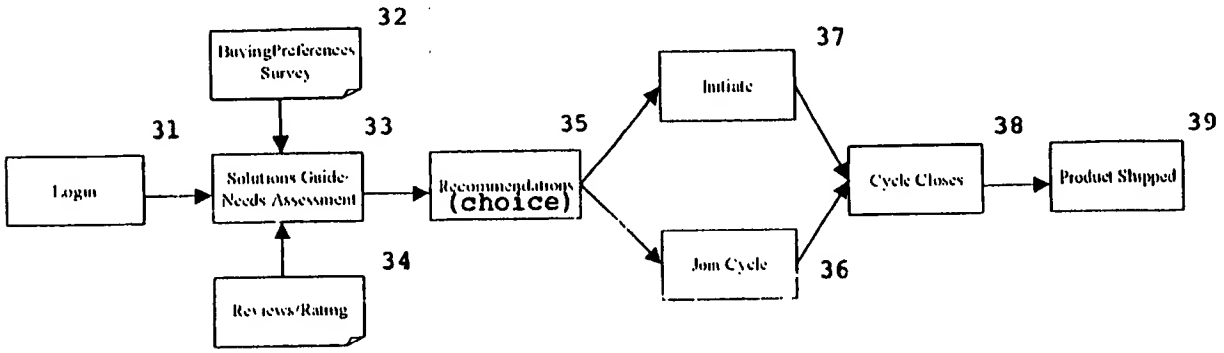


Figure 3

Figure 4

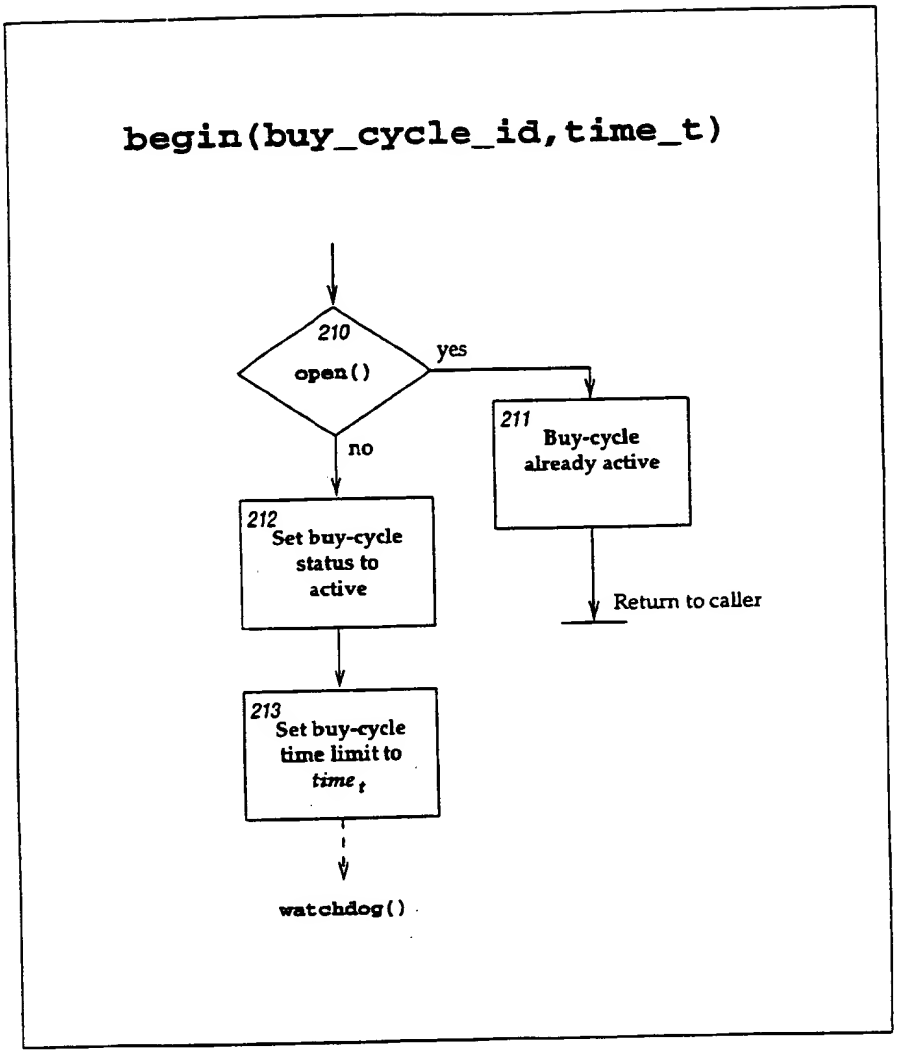

begin(buy_cycle_id,time_t)
210
open()
yes
no
211
Buy-cycle already active
Return to caller
212
Set buy-cycle status to active
213
Set buy-cycle time limit to time t
watchdog()

Figure 5

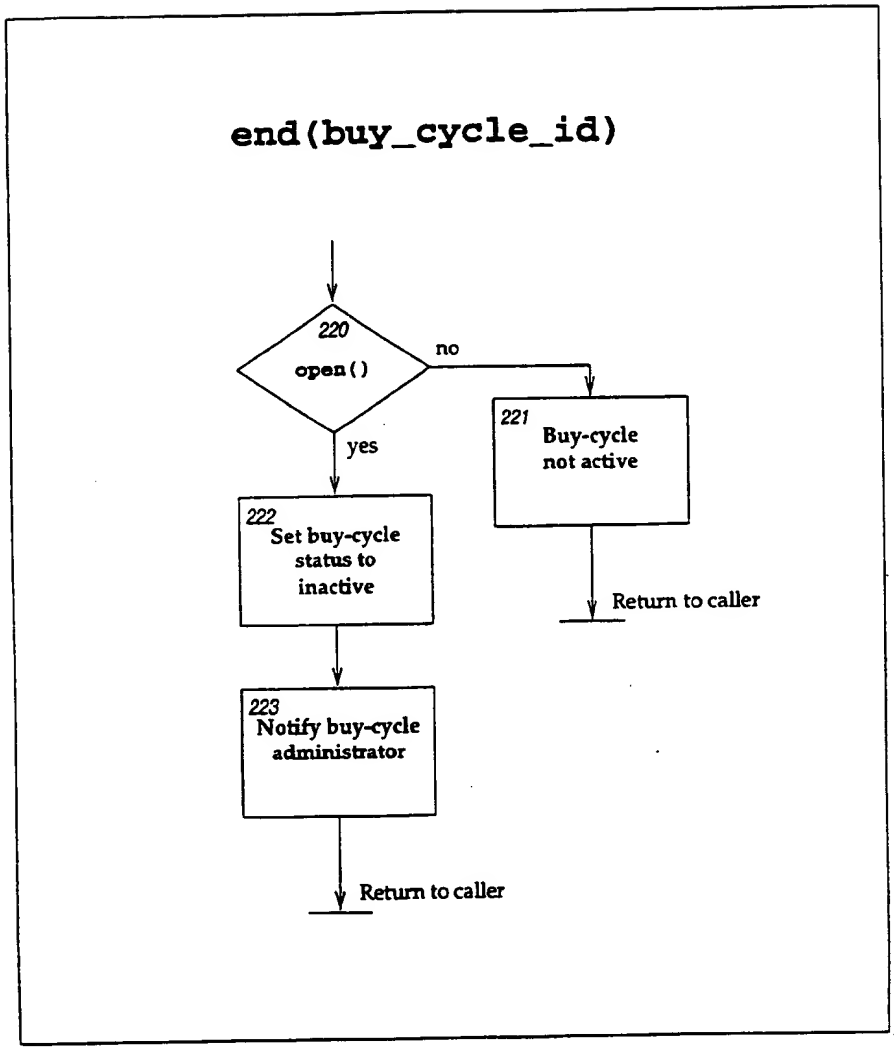


Figure 6

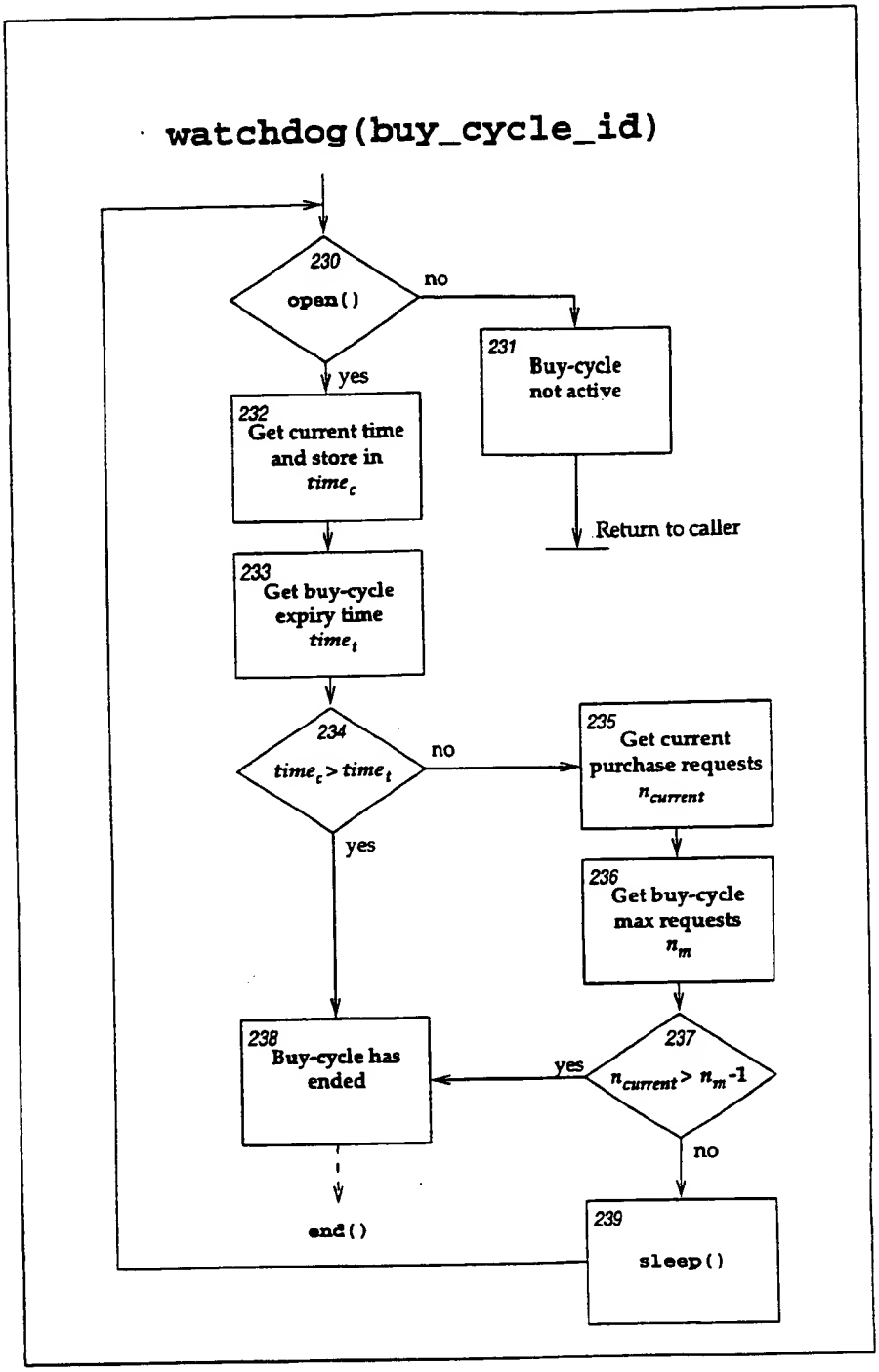

watchdog(buy_cycle_id)
230
open()
no
yes
231
Buy-cycle not active
Return to caller
232
Get current time and store in $time_c$
233
Get buy-cycle expiry time $time_t$
234
$time_c > time_t$
no
yes
235
Get current purchase requests $n_{current}$
236
Get buy-cycle max requests n_m
237
$n_{current} > n_m - 1$
yes
no
238
Buy-cycle has ended
end()
239
sleep()

Figure 7

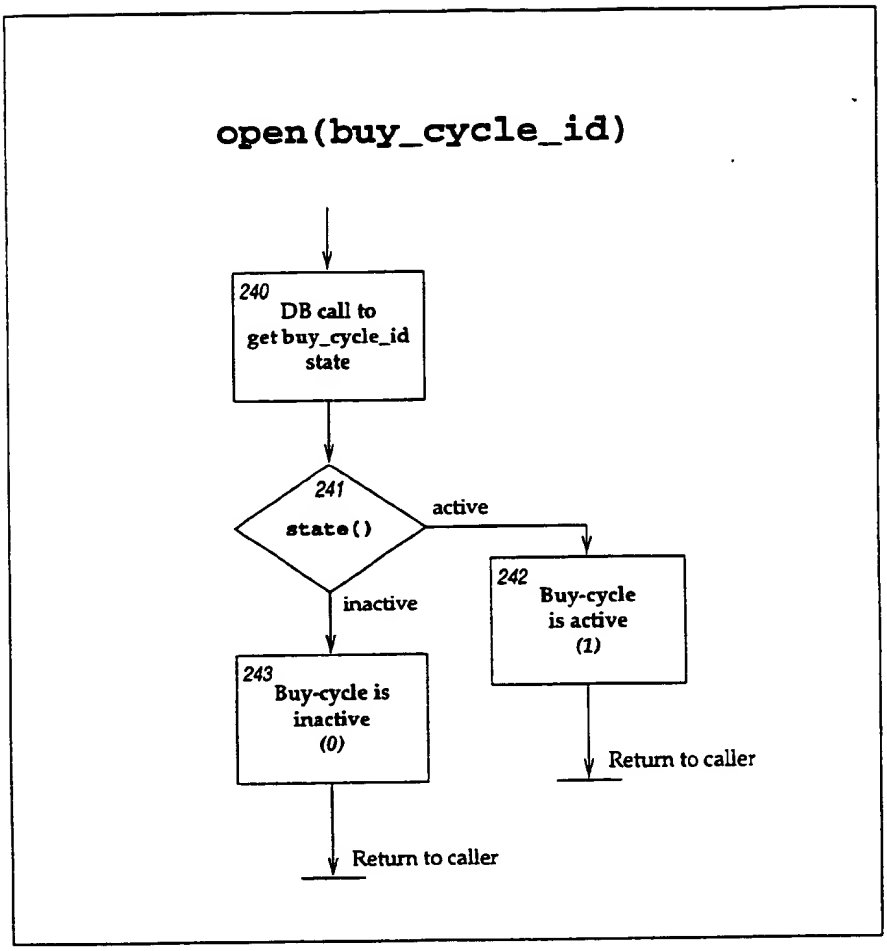

open(buy_cycle_id)
240
DB call to get buy_cycle_id state
241
state()
active
inactive
242
Buy-cycle is active (1)
243
Buy-cycle is inactive (0)
Return to caller
Return to caller

Figure 8

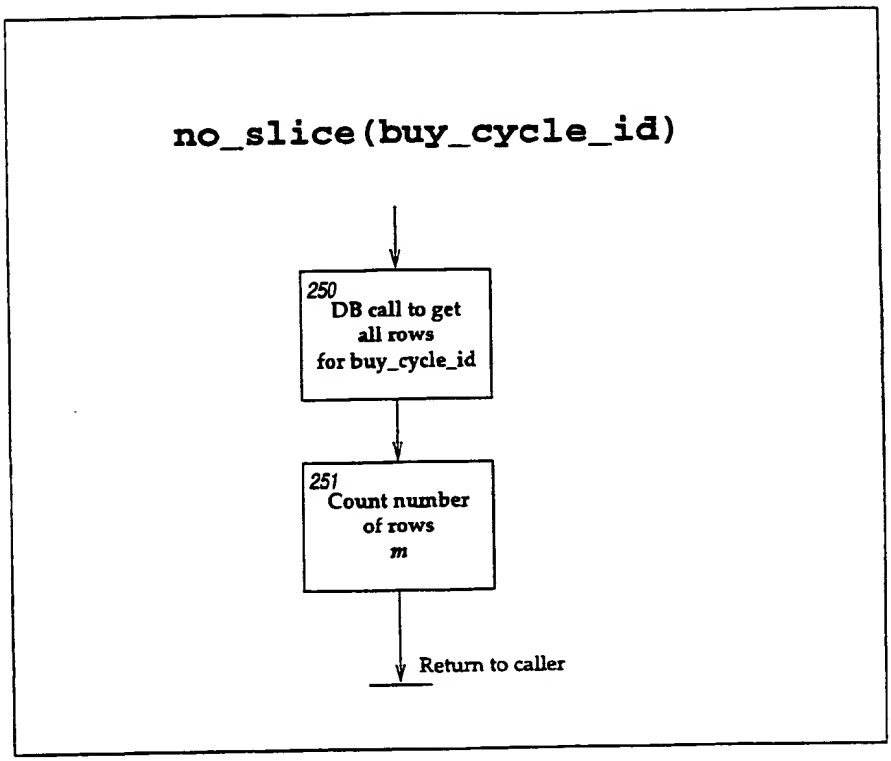


Figure 9

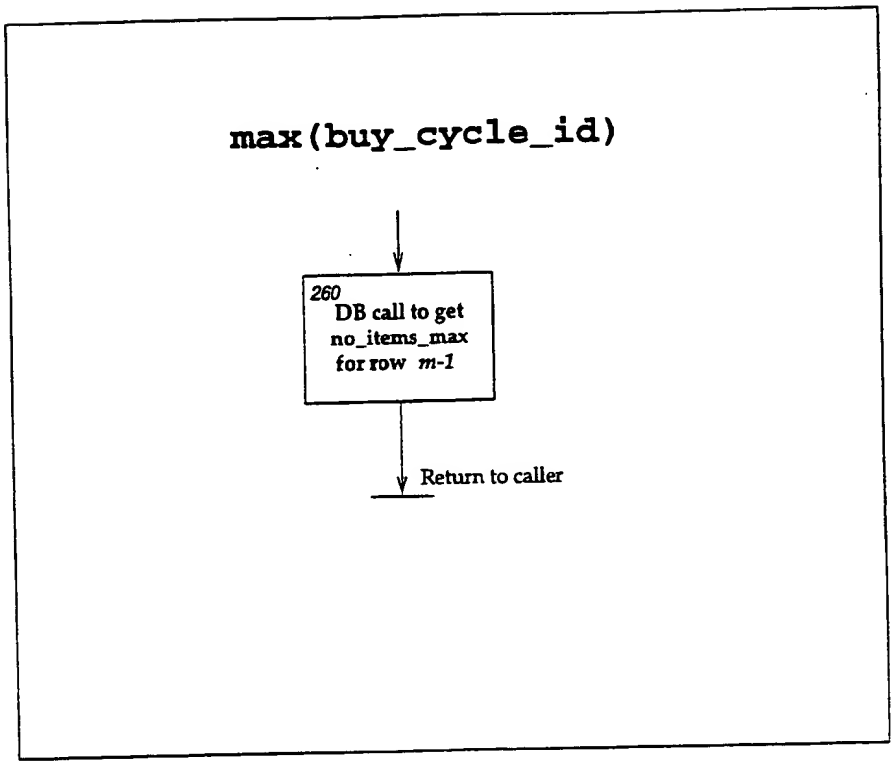

max(buy_cycle_id)
260
DB call to get
no_items_max
for row m-1
Return to caller

Figure 10

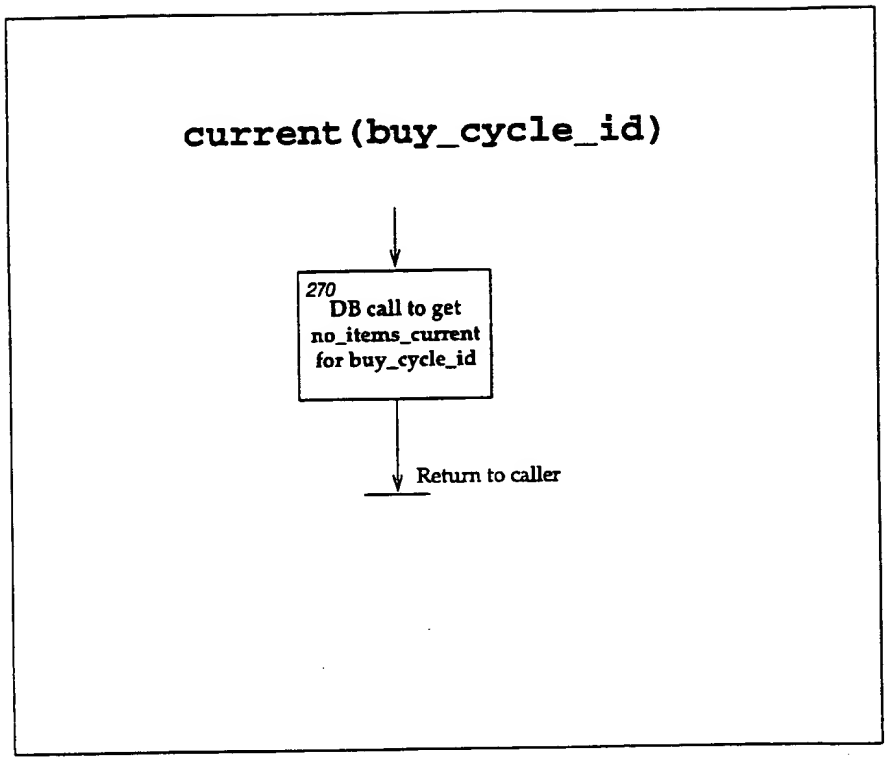

current(buy_cycle_id)
270
DB call to get
no_items_current
for buy_cycle_id
Return to caller

Figure 11

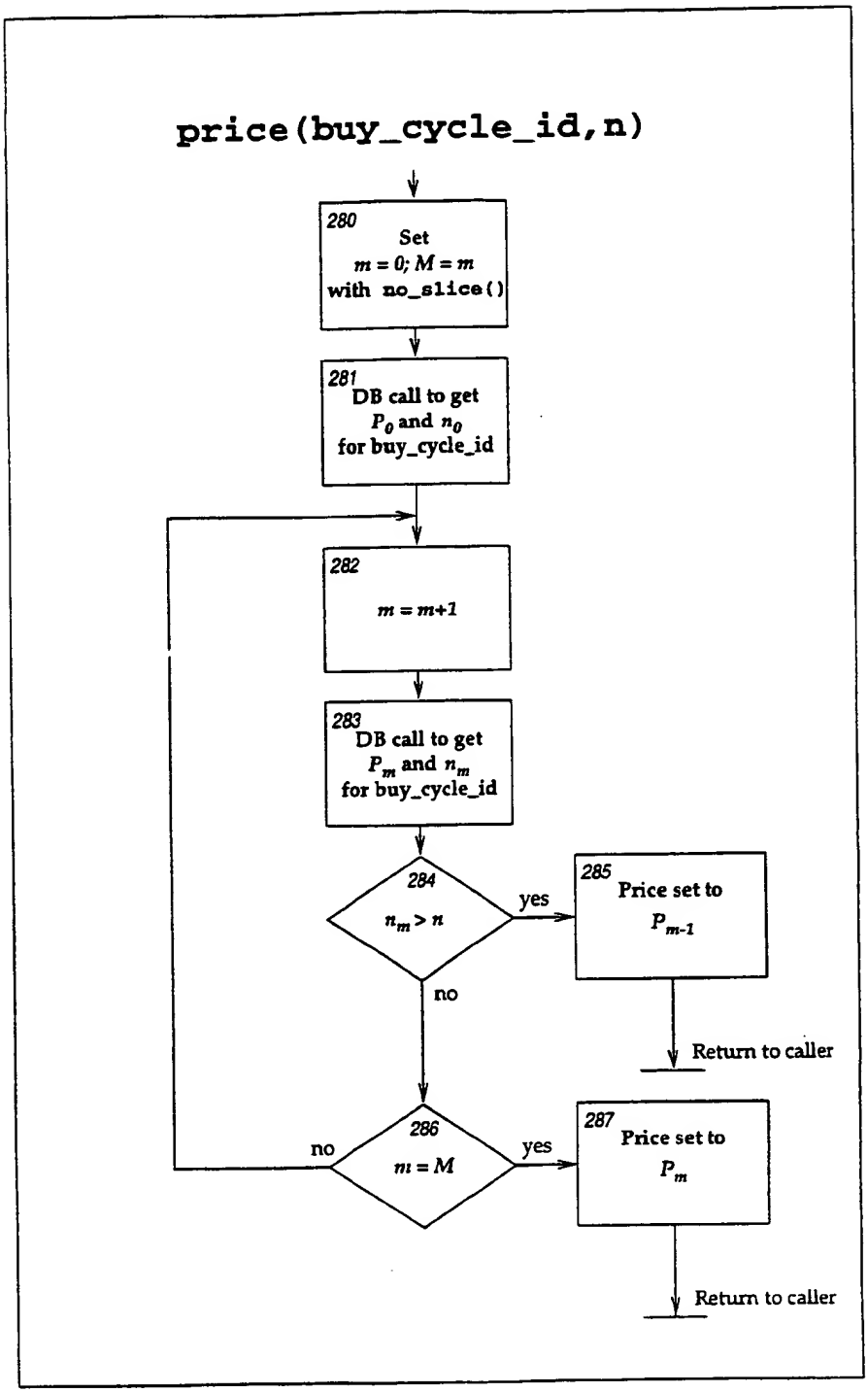
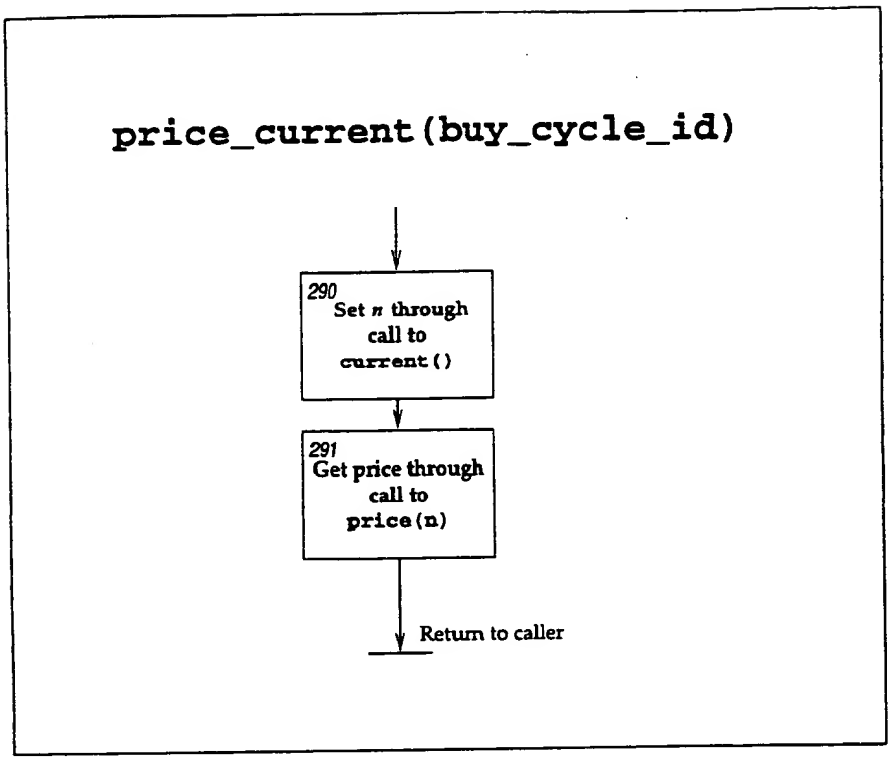

price(buy_cycle_id,n)
280
Set
m = 0; M = m
with no_slice()
281
DB call to get
P_0 and n_0
for buy_cycle_id
282
m = m+1
283
DB call to get
P_m and n_m
for buy_cycle_id
284
$n_m > n$
yes
285
Price set to
P_{m-1}
Return to caller
no
286
m = M
no
yes
287
Price set to
P_m
Return to caller

Figure 12


price_current(buy_cycle_id)
290
Set n through call to current()
291
Get price through call to price(n)
Return to caller

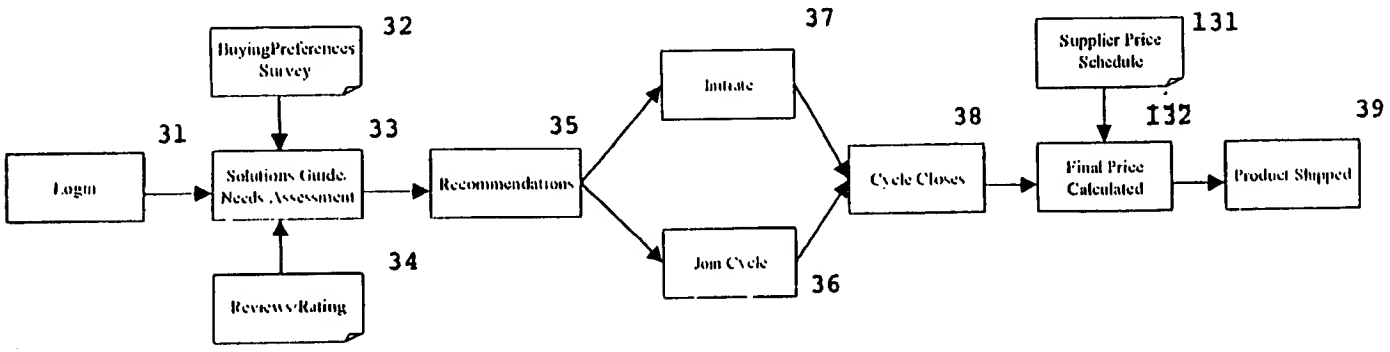


Figure 13

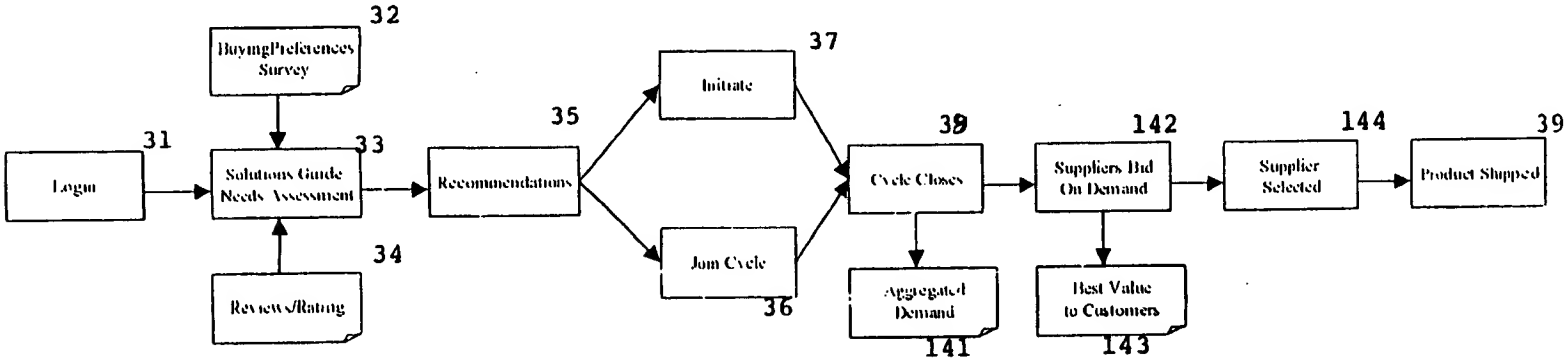


Figure 14